

Rpt. C.11 (Comp.).  
AMRA 35249  
ASKA 36016

Newcastle-on-Tyne No 99212. B.T. COPY.

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Index. No. 36485  
(For London Office only).

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>"ARONDA"</b>	Official Number <b>168076</b>	Nationality and Port of Registry <b>British London</b>	Gross Tonnage <b>9030.81</b> <i>8396 by 11/1/49</i>	Date of Build <b>1941</b> <i>11/1/49</i>	Port of Survey <b>Newcastle-on-Tyne</b>
Moulded Dimensions: Length <b>440'-0" B.P.</b> <i>440'-8 1/4" L.S.</i> Breadth <b>61'-0" V</b> Depth <b>28'-3" V</b> <i>Centre of Rudder Stake</i> <i>440'-6 9/16"</i>				Date of Survey <b>During Construction</b>	
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>12644</b> tons <i>excluding 34 tons of housing &amp; 17 tons of machinery</i>				Surveyor's Signature <b>E.H. Dean</b>	
Coefficient of fineness for use with Tables <b>686</b>				Particulars of Classification <b>+100 A.1.</b>	

<b>Depth for Freeboard (D).</b> Moulded depth ... <b>28'-3"</b> Stringer plate ... <b>0 1/4"</b> Sheathing on exposed deck <b>2 1/2"</b> $T \left( \frac{L-S}{L} \right) = 21 \times 1597 = 03$ Depth for Freeboard (D) = <b>28'-3 1/2"</b>	<b>Depth correction.</b> (a) Where D is greater than Table depth (D - Table depth) R =  (b) Where D is less than Table depth (if allowed) (Table depth - D) R = <b>(28'-3 1/2" - 28'-3") = -3'-18"</b> If restricted by superstructures <b>Yes, no allowance.</b>	<b>Round of Beam correction.</b> Moulded Breadth (B) <b>61'-00"</b> Standard Round of Beam = $\frac{B \times 12}{50} = 14'-64"$ Ship's Round of Beam <b>14'-64"</b> Difference <b>5'-64"</b> Restricted to Correction = $\frac{\text{Diff}^2}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{5'-64"}{4} \times 2314 = +33"$
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### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	75'-77"	75'-77"	8'-9" Centre	✓	75'-77"
" overhang ...	33"	16"	8'-0" Side	✓	16"
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed. <b>Equiv.</b> ...	185'-98"	185'-98"	7'-9" Centre	✓	185'-98"
" overhang aft ...	15'-85"	11'-89"	8'-0" Side	✓	11'-89"
" overhang forward ...	34'-00"	17'-00"		✓	17'-00"
Fore enclosed ...	13'-58"	13'-58"	7'-9" Centre	✓	13'-58"
" overhang ...	13'-83"	13'-83"		✓	13'-83"
Trunk aft ...					
Bridge forward <b>open</b> ...	21'-00"	10'-50"		✓	10'-50"
Tonnage opening aft ...					
" " forward ...					
Total ...	370'-34"	338'-71"			338'-71"

Standard Height of Superstructure **7'-50"**  
" " R.Q.D. **42'-00"**  
Deduction for complete superstructure **42'-00"**  
Percentage covered  $\frac{S}{L} = 84.03\%$   
"  $\frac{S_1}{L} = 76.86\%$   
"  $\frac{E}{L} = 76.86\%$   
Percentage from Table, Line A. **71.44**  
(corrected for absence of forecastle (if required)) ✓  
Percentage from Table, Line B. ✓  
(corrected for absence of forecastle (if required)) ✓  
Interpolation for bridge less than 2L (if required) ✓  
Deduction = **42'-00" x 71.44 = 30'-01"**

### SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	54'-07"	1	54'-07"	✓	40'-75"	40'-75"	1	40'-75"	40'-75"
1/2 L from A.P. ...	14'-06"	4	96'-24"	✓	10'-50"	10'-50"	4	42'-00"	42'-00"
3/8 L " ...	5'-95"	2	11'-90"	✓	-1'-00"	-1'-00"	2	-2'-00"	-2'-00"
Amidships ...	-	4	-		-	-	4	-	-
3/8 L from F.P. ...	11'-90"	2	23'-80"	✓	11'-90"	11'-90"	2	23'-80"	23'-80"
1/2 L " ...	48'-13"	4	192'-52"	✓	48'-13"	48'-13"	4	192'-52"	192'-52"
F.P. ...	108'-14"	1	108'-14"	✓	108'-14"	108'-14"	1	108'-14"	108'-14"
Total ...			486'-67"					405'-21"	405'-21"

Correction =  $\frac{\text{Difference between sums of products}}{18} = \frac{81'-46"}{18} = 4'-49"$   
If limited on account of midship superstructure. ✓  
Mean actual sheer aft = **Deficient. Less than 50%**  
Mean standard sheer aft  
Mean actual sheer forward = **Excess**  
Mean standard sheer forward  
Length of enclosed superstructure forward of amidships = **Deficient Sheer.**  
" " aft of " = **23'-7"**  
If limited to maximum allowance of 1 1/2 ins. per 100 ft. ✓

<b>Deduction for Tropical Freeboard.</b> <b>Addition for Winter and Winter North Atlantic Freeboard.</b> Depth to Freeboard Deck = <b>28'-29"</b> Summer freeboard = <b>4'-67"</b> Moulded draught (d) = <b>23'-62"</b> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <b>5'-90" = 6"</b> Addition for Winter North Atlantic Freeboard (if required) = ✓	<b>Deduction for Fresh Water.</b> Displacement in salt water at summer load water line $\Delta = 12531$ Tons per inch immersion at summer load water line $T = 51.66$ Deduction = $\frac{\Delta}{40T}$ inches = <b>6'-06"</b> <b>= 6"</b>	<b>TABULAR FREEBOARD</b> corrected for Flush Deck (if required) Correction for coefficient <b>686 + 68 = 1366 / 1.36</b> Depth Correction ... Deduction for superstructures ... Sheer correction ... Round of Beam correction ... Correction for Thickness of Deck amidships ... Other corrections, scantlings, etc. ... Summer Freeboard = <b>56'-03"</b>
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### SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:

Tropical Fresh Water Line above Centre of Disc ... <b>12"</b> ...	Tropical Fresh Water Freeboard ... <b>3'-8"</b> ...
Fresh Water Line " " ... <b>6"</b> ...	Fresh Water " " ... <b>4'-2"</b> ...
Tropical Line " " ... <b>6"</b> ...	Tropical " " ... <b>4'-2"</b> ...
Winter Line below " " ... <b>6"</b> ...	Winter " " ... <b>5'-2"</b> ...
Winter North Atlantic Line " " ... ✓ ...	Winter North Atlantic " " ... ✓ ...

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Aronda.

A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.

Bridge Aft End Equivalent Bulkhead

$$\frac{3.42 \times 15.00}{60.50} = .85'$$

$$186.83' - .85' = 185.98'$$

Overshell displacement at 23'-0" full draught = 12014 tons excluding 54 tons lossing + 17 tons counter stem ✓  
" " " " 24'-0" " " = 12634 ✓ " 34 " " + 17 " " " ✓  
Tons per inch mid. " 23'-0" " " = 51.3 ✓  
" " " " 24'-0" " " = 51.73. ✓  
Depth of Keel = 13 1/4" ✓

The Watertight subdivision has been approved by the Ministry of Shipping (B of T.) for a moulded draft of 23'-3 1/2" ✓

Trade of ship

Government Service.

Names of sister ships

"ASKA". S.H.W.R. No 1596. "AMRA". S.H.W.R. No 1570

Builder's name and yard number

Swan Hunter & Wigham Richardson Ltd. No. 1640

Owners

British India S.N. Co. Ltd.

Fee £ 19-0-0

To charge with F. Entry.



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